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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,653	04/19/2002	Kazushi TSUJI	016778-0443	.9953

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WASHINGTON, DC 20007

EXAMINER

JACKSON, BLANE J

ART UNIT	PAPER NUMBER
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2685

DATE MAILED: 08/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/019,653

Applicant(s)

TSUJI, KAZUSHI

Examiner

Blane J Jackson

Art Unit

2685

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 February 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1,7,8.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 4, 5, 7, 11 and 12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter that was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. As to claim 4, the antenna sharing equipment, identified in the Specification (page 8 lines 10-26) and the drawings (figures 1-4 as block (13)), does not connect a receiving unit in one sector to an antenna in the other sector but appears to function as a diplexer splitting or combining the transmit and receive frequencies with a single same sector antenna.

2. Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term "mixer" in claims 6, 13 and 14 are used by the claims to mean "combiner", while the accepted meaning is "demodulator." The term is indefinite because the specification does not clearly redefine the term.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 7, ¹⁰~~12~~ and ~~16~~ 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. (U.S. Patent 5,818,883) with a view to Yandrofski et al. (U.S. Patent 6,205,340).

As to claim 1, Smith teaches a radio base station apparatus comprising:

a mobile communication radio base station having a diversity reception function, said radio base station comprising a plurality of radio units, one radio unit comprising a receiving unit for each sector and a second radio unit with a receiving unit connected to a second or diversity unit for each sector (figures 3, 4 and 5, column 5, line 56 to column 6, lines 18, two receiver banks for selection or combining diversity).

Smith is not clear that the diversity function is configured for a plurality of radio units comprising a receiving unit in one (associated with each) sector which is connected to an antenna in another sector.

Yandrofski, with emphasis on cryoelectronic receiver front in base stations for mobile radio systems, clearly teaches the idea of a fault tolerant dual diversity antenna system with dual antennas in a sectorized three part system where each sector has two associated receive channels. Yandrofski further indicates each sector antenna diversity

pair sources a receiver associated with the sector and a receiver associated with a different sector (figure 7, column 11, lines 50-63).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Smith with the specific diversity antenna system architecture of Yandrofski such that if one sector front end or receiver channel fails, another sector associated receiver carries or maintains operation where two sectors are degraded but all sectors remain functional.

As to claim 2, Smith teaches a radio base station apparatus where the mobile communication radio base station further comprises:

A control unit for detecting fault information of the plurality of radio units and

A base band signal processing unit for specifying the radio unit which is damaged based on a signal from the control unit and for stopping a received signal from the receiving unit in the damaged radio unit (figures 4 and 17, a structure with redundancy where the processors can be implemented with appropriate diversity selection, column 6, lines 23-52).

As to claims 3 and 10 with respect to claims 1 and 2, Smith teaches a radio base station apparatus wherein the radio unit comprises a plurality of transmitting units (figure 3 is the transmitter detail, figure 4 a transceiver).

As to claims 7 and 17, with respect to claims 5 and 6, Smith teaches a radio base station apparatus according to claim 5 further comprising a plurality of the base band signal processing units (figures 2, 3 and 4, column 6, line 53 to column 7, line 41).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. Claim 6, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. (U.S. Patent 5,818,883) and Yandrofski et al. (U.S. Patent 6,205,340) with a view to McNicol (U.S. Patent 6,363,262).

As to claims 6, 13, 14, 15 and 16, with respect to claims 1, 2, 3, 4 and 5, Smith teaches a transmitting unit is connected to the antenna via a combiner (figure 4,

combiner (419)) but does not teach the transmitting unit is connected to the antenna via a mixer and antenna sharing equipment (diplexer). Wilson teaches a transceiver configuration of separate receive antennas and transmit antennas.

McNicol teaches a cellular telephone base station configured by incident RF signals received by an antenna and route via a radio frequency filter or diplexer to an amplifier, six-way splitter and six reception paths (figure 4, column 7, line 50 to column 8, line 21). McNicol also discloses that the use of a diplexer enable the antenna to be used for transmission as well as reception of compatible frequency bands.

It would have been obvious to one of ordinary skill in the art at the time of the invention to recognize in Smith the alternative configuration of McNicol to provide the well known application of diplexers, splitters/ combiners and amplifiers in cellular front end signal chains.

7. Claims 8 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Smith et al. (U.S. Patent 5,818,883).

As to claim 8 and 9, Smith teaches a method for preventing a radio function from being interrupted when a communication fault is caused in a mobile communication radio base station having a diversity reception function, the method comprising the steps of:

Detecting a fault signal from a multicarrier-type functional unit for covering one of a plurality of sectors,

Transmitting a fault notifying signal to a base band signal processing unit based on the detected fault signal,

Invalidating an output signal from a receiving unit in the functional unit in which the fault is caused based on the fault notifying signal (figure 4, multi-channel cellular diversity reception system: column 3, lines 59-15 and processors configured to listen to the receiver in the receiver banks and, through inherent fault analysis, signal the correct receiver for operation, disconnecting the faulty unit through diversity selection, column 6, lines 23-52).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Otsuka (U.S. Patent 6,339,703) discloses a diversity reception system used for a mobile radio communication system of a sector type using single directivity transmitting / receiving antennas.

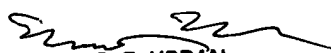
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blane J Jackson whose telephone number is (703) 305-5291. The examiner can normally be reached on Monday through Friday, 8:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (703) 305-4385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2685

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BJJ


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